

THAT WHICH IS CLAIMED:

09693268-102000

1 A method for type of service classification
of a communication request for an application executing
5 on a server, the method comprising the steps of:
 providing an application plug-in associated with
the application in an operating system kernel of the
server;
 wherein the application plug-in performs the
10 following steps:
 receiving the communication request;
 obtaining application level information from the
received communication request;
 assigning a type of service classification to the
15 received communication request based on the obtained
application level information; and
 providing the assigned type of service
classification information for the communication
request to a process executing on the server for
20 processing communications from the server responsive to
the communication request.

2. The method of Claim 1 wherein the
communication request is a TCP/IP protocol
25 communication and wherein the step of obtaining
application level information from the received
communication request comprises the step of obtaining
level 5 or above information from the received
communication request.

30
3. The method of Claim 2 wherein the step of
providing the assigned type of service classification
information for the communication request to a process
executing on the server comprises the step of providing
35 the assigned type of service classification information

comprises the step of assigning the type of service classification based on workload management information associated with the server.

5 8. The method of Claim 7 further comprising the
steps of:

providing information associated with the received communication to a workload management process executing on the server; and

10 receiving the workload management information from
the workload management process.

9. The method of Claim 7 wherein the assigned type of service classification assigns at least one of
15 a central processing unit (CPU) priority allocation, a memory allocation or an input/output (I/O) bandwidth allocation to the received communication request.

10. The method of Claim 2 further comprising the
20 step of including type of service information in
communications from the server responsive to the
communication request based on the assigned type of
service classification, the type of service information
being usable by a network communicating the
25 communications from the server for prioritization of
traffic flows on the network.

11. The method of Claim 10 wherein the type of service information provides a different type of service for network prioritization of communications from the server than the assigned type of service classification provides from the server for processing of the communication request.

comprises the step performed by the TCP/IP kernel of associating the assigned type of service with a plurality of communications from the server responsive to the received communication request.

5

17. The method of Claim 16 further comprising the step of including type of service information in communications from the server responsive to the communication request based on the assigned type of service classification, the type of service information being usable by a network communicating the communications from the server for prioritization of traffic flows on the network.

18. The method of Claim 13 wherein the application level information includes an identification of a user initiating the communication request at a source device of the communication request.

20

19. The method of Claim 13 wherein the application level information is obtained from a cookie contained in the communication request.

20. A system for type of service classification of a communication request for an application executing on a server, the system comprising:

a communication process executing on the server that processes communications between the server and a communication network associated with the communication request based on an associated type of service classification; and

an application plug-in process associated with the application in an operating system kernel of the server that obtains application level information from the

means for providing the assigned type of service classification information for the communication request to the communication process.

5 23. The system of Claim 22 wherein the communication request is a TCP/IP protocol communication and wherein the means for obtaining application level information from the received communication request comprises means for obtaining
10 level 5 or above information from the received communication request.

24. The system of Claim 23 wherein the means for providing the assigned type of service classification information for the communication request to the communication process comprises means for providing the assigned type of service classification information for the communication request to a TCP/IP kernel executing on the server.

25. The system of Claim 23 wherein the means for assigning a type of service classification further comprises means for assigning the type of service classification based on workload management information associated with the server.

26. The system of Claim 25 further comprising:
means for providing information associated with
the received communication to a workload management
30 process executing on the server; and
means for receiving the workload management
information from the workload management process.

27. The system of Claim 23 further comprising
35 means for including type of service information in

communications from the server responsive to the
communication request based on the assigned type of
service classification, the type of service information
being usable by a network communicating the
5 communications from the server for prioritization of
traffic flows on the network.

28. The system of Claim 23 wherein the
communication request is a web-based request and the
10 application is a web application.

29. The system of Claim 28 wherein the web-based
request is a hypertext transport protocol (HTTP)
request and wherein the application level information
15 includes a universal resource locator (URL) of the HTTP
request and wherein the means for assigning further
comprises means for parsing the URL on the server to
make a policy based determination of the type of
service classification for the communication request.

20
30. The system of Claim 29 wherein the assigned
type of service classification assigns at least one of
a central processing unit (CPU) priority allocation, a
memory allocation or an input/output (I/O) bandwidth
25 allocation to the received communication request.

31. The system of Claim 29 wherein the means for
providing the assigned type of service classification
information for the communication request to the
30 communication process comprises means for providing the
assigned type of service classification information for
the communication request to a TCP/IP kernel executing
on the server and wherein the system further comprises
the TCP/IP kernel, wherein the TCP/IP kernel further
35 comprises means for associating the assigned type of

service with a plurality of communications from the server responsive to the received communication request.

5 32. The system of Claim 31 further comprising means for including type of service information in communications from the server responsive to the communication request based on the assigned type of service classification, the type of service information
10 being usable by a network communicating the communications from the server for prioritization of traffic flows on the network.

000201-8926960
15 ~~33.~~ A computer program product for type of service classification of a communication request for an application executing on a server, comprising:
 a computer-readable storage medium having computer-readable program code embodied in said medium, said computer-readable program code comprising:
20 application plug-in computer-readable program code associated with the application for execution in an operating system kernel of the server;
 wherein the application plug-in computer-readable program code further comprises:
25 computer-readable program code which receives the communication request;
 computer-readable program code which obtains application level information from the received communication request;
30 computer-readable program code which assigns a type of service classification to the received communication request based on the obtained application level information; and
 computer-readable program code which provides the
35 assigned type of service classification information for

the communication request to a process executing on the server for processing communications from the server responsive to the communication request.

5 34. The computer program product of Claim 33 wherein the communication request is a TCP/IP protocol communication and wherein the computer-readable program code which obtains application level information from the received communication request comprises computer-
10 readable program code which obtains level 5 or above information from the received communication request.

000207" 8925950
15 35. The computer program product of Claim 34 wherein the computer-readable program code which provides the assigned type of service classification information for the communication request to the communication process comprises computer-readable program code which provides the assigned type of service classification information for the
20 communication request to a TCP/IP kernel executing on the server.

25 36. The computer program product of Claim 34 wherein the computer-readable program code which assigns a type of service classification further comprises computer-readable program code which assigns the type of service classification based on workload management information associated with the server.

30 37. The computer program product of Claim 36 further comprising:

computer-readable program code which provides information associated with the received communication to a workload management process executing on the
35 server; and

computer-readable program code which receives the workload management information from the workload management process.

5 38. The computer program product of Claim 34
further comprising computer-readable program code which
includes type of service information in communications
from the server responsive to the communication request
based on the assigned type of service classification,
10 the type of service information being usable by a
network communicating the communications from the
server for prioritization of traffic flows on the
network.

15 39. The computer program product of Claim 34
wherein the communication request is a web-based
request and the application is a web application.

40. The computer program product of Claim 39 wherein the web-based request is a hypertext transport protocol (HTTP) request and wherein the application level information includes a universal resource locator (URL) of the HTTP request and wherein the computer-readable program code which assigns further comprises computer-readable program code which parses the URL on the server to make a policy based determination of the type of service classification for the communication request.

30 41. The computer program product of Claim 40
wherein the assigned type of service classification
assigns at least one of a central processing unit (CPU)
priority allocation, a memory allocation or an
input/output (I/O) bandwidth allocation to the received
35 communication request.

0000207" 8922696

42. The computer program product of Claim 40 wherein the computer-readable program code which provides the assigned type of service classification information for the communication request to the communication process comprises computer-readable program code which provides the assigned type of service classification information for the communication request to a TCP/IP kernel executing on the server and wherein the computer program product further comprises TCP/IP kernel computer-readable program code which associates the assigned type of service with a plurality of communications from the server responsive to the received communication request.

43. The computer program product of Claim 42 further comprising computer-readable program code which includes type of service information in communications from the server responsive to the communication request based on the assigned type of service classification, the type of service information being usable by a network communicating the communications from the server for prioritization of traffic flows on the network.